

REMARKS

Applicants amend claims 1, 4, 7, 10, 14, 23, 26, 33, 41, 44 and 47, and cancel claims 17, 18, 27-32, 39 and 40 without prejudice or disclaimer.

Specifically, Applicants amend claims 4 and 10 to correct the omissions pointed out by the Examiner. Applicants amend independent claims 1, 7, 44 and 47 to include a new step. For instance, claim 1 has been amended to recite “specifying a predetermined limit as to the number of second users permitted to join the group.” Applicants also amend claim 14 to include the recitations from claims 17 and 18, amend claim 26 to include the recitations from claims 27-32, and amend claim 33 to include the recitations from claims 39 and 40.

Claims 1-16, 19-26, 33-38 and 41-51 (41 total claims; 7 independent claims) remain pending in the application. Reconsideration of the application is respectfully requested in view of the above amendments and the following remarks.

Art-Based Rejections

Claims 1-6, 7-13, 44-46 and 47-51

Claims 1-13 and 44-51 were rejected under 35 U.S.C. 102(e) as being anticipated by Toyryla.

Applicants respectfully traverse these rejections for at least the following reasons.

Claims 1-6

Claim 1 concerns a method for a dynamic group call from a first user to a group of second users via a network including a server. This method includes the steps of:

specifying a predetermined limit as to a number of second users permitted to join the group;

dynamically selecting, by the first user without the network, a selected user for inclusion in the group of second users;

determining whether a number of selected second users is within the predetermined limit; and

if the number of selected second users is within the predetermined limit, adding by the first user the selected user to the group of second users. (Emphasis added.)

The Toyryla reference relates to dynamically creating talk groups in a communications system. As discussed in the Abstract of the Toyryla reference, a new dynamic group is created by a user who defines a group definition message in his subscriber station. This group

definition message uniquely identifies the new group in the system, and can be distributed to the intended group members using the usual messaging facilities available in the specific communications system. The recipients of the group definition message can store the message in their subscriber stations for subsequent use. Thus, group creation and membership management are handled at user level without interacting with the system. The role of the system is restricted to establishing a means for communication in the group whenever there are users who have activated the group for communication. In rejecting claim 1, the Office also cites col. 6, line 3 through col. 7, line 30 of the Toyryla reference.

As discussed at col. 6, lines 6-9 of the Toyryla reference: “the group creation and membership management are handled at a user level without interacting with the group communication facilities of the communications system on the network side.” At col. 6, lines 18-22 the Toyryla reference also discusses that: “There may be a large number of dynamic talk groups defined and stored in the mobile stations, but typically only a few of them are actually activated on the network side of the communications system at a given time.” (Emphasis added.) At col. 6, lines 46-56 the Toyryla reference also discloses that: “The talk group server system 14 receives the group activation message (step 301) and, in the preferred embodiment of the invention, checks the rights of the specific user to access and activate the dynamic talk group identified by the group identifier (step 302). The checking of the access rights is preferably based on additional security information contained in the activation message 4, as will be described in more detail below.” (Emphasis added.)

To more clearly define the term “predetermined limit,” as used in claim 1, Applicants amend claim 1 to recite the step “specifying a predetermined limit as to a number of second users permitted to join the group.” Applicants respectfully submit that the Toyryla reference fails to disclose, for example, the step of “determining whether a number of selected second users is within the predetermined limit,” as required by claim 1. (Emphasis added.) Consequently, the Toyryla reference fails to teach or suggest at least these recitations of claim 1. Accordingly, the rejection of claim 1 and its dependent claims 2-6 should be withdrawn.

In addition, Applicants note that claims 2-6 are separately patentable because those claims describe additional novel elements and features that are not described in the prior art. Therefore, Applicants submit that the rejections of claims 2-6 should also be withdrawn for at least these reasons.

Claims 7-13

Claim 7 relates to a method for dynamic group call from a first user to a group of second users via a network including a server. Claim 7 recites:

“specifying a predetermined limit as to a number of second users permitted to join the group;

dynamically selecting, by the first user without the network or the server, a selected group of second users;

determining whether a number of the selected group is within the predetermined limit; and

if the number of selected second users is within the predetermined limit, adding by the first user the selected group to the group of second users.” (Emphasis added.)

For reasons similar to those discussed above with respect to claim 1, Applicants submit that Toyryla fails to disclose at least the above-underlined recitations of claim 7. Accordingly, the rejection of claim 7 and its dependent claims 8-13 should be withdrawn.

In addition, Applicants note that claims 8-13 are separately patentable because those claims describe additional novel elements and features that are not described in the prior art. Therefore, Applicants submit that the rejections of claims 8-13 should also be withdrawn for at least these reasons.

Claims 44-46

Claim 44 relates to a method for dynamic group call from a first mobile unit to a group of second mobile units via a network including a server. Claim 44 recites:

“specifying a predetermined limit as to a number of second mobile units permitted to join the group;

dynamically selecting, by the first mobile unit without the network, at least one other second mobile unit for inclusion in the group of second mobile units;

determining whether a total number of selected second mobile units is within a predetermined limit; and

if the total number of selected second mobile units is within the predetermined limit, adding by the first mobile unit the selected second mobile unit to the group of second mobile units.” (Emphasis added.)

For reasons similar to those discussed above with respect to claim 1, Applicants submit that Toyryla fails to disclose at least the above-underlined recitations of claim 44. Accordingly,

the rejection of claim 44 and its dependent claims 45-46 should be withdrawn. In addition, Applicants note that claims 45-46 are separately patentable because those claims describe additional novel elements and features that are not described in the prior art. Therefore, Applicants submit that the rejections of claims 45-46 should also be withdrawn.

Claims 47-51

Claim 47 relates to a method for dynamic group call from a first mobile unit to a group of second mobile units via a network including a server. Claim 47 recites:

“specifying a predetermined limit as to a number of second mobile units permitted to join the group;
dynamically selecting, by the first mobile unit without the network or the server, selected second mobile units;
determining whether a number of selected second mobile units is within the predetermined limit; and
if the number of selected second mobile units is within the predetermined limit, adding by the first mobile unit the selected second mobile units to the group of second mobile units.” (Emphasis added.)

For reasons similar to those discussed above with respect to claim 1, Applicants submit that Toyryla fails to disclose at least the above-underlined recitations of claim 47. Accordingly, the rejection of claim 44 and its dependent claims 48-51 should be withdrawn. In addition, Applicants note that claims 48-51 are separately patentable because those claims describe additional novel elements and features that are not described in the prior art. Therefore, Applicants submit that the rejections of claims 48-51 should also be withdrawn.

Claims 14, 15 and 19-25

Claims 14-17 were rejected under 35 U.S.C. 102(e) as being anticipated by Toyryla, claims 18-20 and 23-25 were rejected under 35 U.S.C. 103(a) as being unpatentable over Toyryla in view of Raes, and claims 21-22 were rejected under 35 U.S.C. 103(a) as being unpatentable over Toyryla in view of Chandhok et al.

Applicants respectfully traverse these rejections for at least the following reasons.

Applicants amend claim 14 to include the recitations previously recited in claims 17 and 18. Amended claim 14 concerns method for dynamic group call from a first user to a group of second users via a network including a server. This method includes the steps of:

dynamically sending a list complete message by the first user to the network;

validating, by the network, a dynamic group call list associated with the list complete message by validating the dynamic group call list for the first user and for each of the second users;

if the dynamic group call list is invalid, providing a message by the network to the first user that a failure has occurred;

if the dynamic group call list is validated, storing a dynamic group call identity by the first user;

determining by the network whether dynamic group call slots are available in a database;

if there are slots available, creating a unique group ID for the dynamic group call list; and

if dynamic group call slots are not available, selecting by the network previously used dynamic group call slot for the dynamic group call list. (Emphasis added.)

In rejecting claim 18, the Office concedes that the Toyryla reference fails to disclose “dynamic group call slots,” and cites col. 3, lines 49-55, col. 4, lines 35-50, col. 5, lines 28-55, and col. 7, lines 7-21 and 48-67 of Raes as allegedly teaching this recitation.

As discussed in the Abstract of the Raes reference, the Raes reference relates to a method in which groups are formed by first broadcasting a group definition message (GDM) in which a logical formula (LF) is included expressing conditions (C1-N) on classification parameters of terminals which may have to be included in such groups. Each of these terminals then checks for itself whether its classification parameters, such as individual and group addresses, satisfy this formula which consists in combining these conditions via logical operators (L1--(N-1)). If so, a dynamic group address (DGA) included in the group definition message is allocated to such a terminal such that it may subsequently be paged by using this dynamic group address. A specific use of this method in which these groups are used to efficiently arbitrate access of a shared transmission medium between the above terminals is also shown.

As discussed at col. 3, lines 49-55 of the Raes reference: “The use of groups to restrict access opportunities is, as already mentioned above, useful to restrict collision between access-desiring terminals.” At col. 4, lines 35-50 the Raes reference also discusses that: “The shown network includes a base station BS and a plurality of mobile stations MS1, . . . MSN between which information is transferred over a standard radio link RL split in a number of channels each consisting of periodically reoccurring TDMA time slots.” (Emphasis added.) At col. 5,

lines 28-55 the Raes reference also discloses that: “The SSIs include at least one Individual SSI or ISSI which is unique to any one mobile station as well as at least one Group SSI or GSSI, the latter GSSI being common to a number of mobile stations which together form a group and being pre-assigned to these mobile stations.” (Emphasis added.)

At col. 7, lines 7-21 the Raes reference also discloses that: “Finally, and if the expression is thus found to be valid for the mobile station the dynamic group address DGA is added to a list of such DGAs contained in the mobile station. ... It is to be noted that thus formed dynamic groups with a specific DGA may be released by broadcasting a new GDM relative to a group with this DGA in which case the terminals may again verify the corresponding logical formula LF and delete the DGA from its DGA list in case it does not satisfy this new formula LF.” (Emphasis added.) Finally, at col. 7, lines 48-67 the Raes reference also discloses that: “The exemplary access assignment message AAM shown in FIG. 3b consists of two 3-bit values AS and is sent via the downlink broadcast control channel associated to each two uplink traffic channels displaced over 2 time slots with respect to this downlink channel. Each of the mobile terminals, upon receipt of AAM, check the first bit of the above two 3-bit values. If this bit is 1, this means that the associated uplink traffic channel is already in use. Otherwise the 2 final bits of the 3-bit values AS include an access code AC. ... The mobile terminal then checks whether the latter access code AC is contained in its access code list. If this is not the case, this terminal is not allowed to attempt the access of the associated traffic channel. If this access code AC is however contained in this list, the mobile terminal may attempt access of the associated traffic channel according to a well known ALOHA-access protocol.” (Emphasis added.)

Applicants respectfully submit that the Raes reference fails to disclose, for example, the step of “determining by the network whether dynamic group call slots are available in a database,” as required by amended claim 14. (Emphasis added.) The Raes reference merely discloses that the concept of a TDMA channel is known and that a TDMA slot within that TDMA channel can be allocated to for transmitting a group definition message (GDM) to a group of users. Moreover, the Raes reference fails to disclose, for example, the step of “if there are slots available, creating a unique group ID for the dynamic group call list,” as required by amended claim 14. (Emphasis added.)

Consequently, neither the Toyryla reference nor the Raes reference teaches or suggests at least these recitations of claim 14. Accordingly, the rejection of claim 14 and its dependent claims 15 and 19-25 should be withdrawn.

In addition, Applicants note that claims 15 and 19-25 are separately patentable because those claims describe additional novel elements and features that are not described in the prior art. Therefore, Applicants submit that the rejections of claims 15 and 19-25 should also be withdrawn for at least these reasons.

Claim 26

Claims 26-32 were rejected under 35 U.S.C. 103(a) as being unpatentable over Toyryla in view of Chandhok et al.

Applicants respectfully traverse these rejections for at least the following reasons.

Applicants amend claim 26 to include the recitations from claims 27 through 32.

Amended claim 26 concerns a method for dynamic group call from a first user to a group of second users via a network including a server. This method includes the steps of:

dynamically sending by the first user a dynamic group call list of the group of second users to the server through the network;

sending by the first user a dynamic group call list complete message and an indicator to the server through the network to start the dynamic group call immediately;

validating, by the network, the dynamic group call list;

selecting, by the network, a unique dynamic group call identification and a time to live parameter corresponding to the unique dynamic group call identification based on network parameters; and

starting the dynamic group call immediately by the network. (Emphasis added.)

In rejecting claim 26, the Office also concedes that the Toyryla reference fails to disclose “starting the dynamic group call immediately by the network.” In an attempt to supply this deficiency of the Toyryla reference, the Office also cites paragraphs [0007] and [0035] through [0039] of the Chandhok reference.

In rejecting claims 30-32, the Office cites col. 9, line 63 through col. 10, line 29 of the Toyryla reference which discusses:

“The control, user and management planes are connected to each others via several IP technologies, such as SIP (Session Initiation Protocol) for control

plane signaling, RTP (a transport protocol for real-time applications) in the user plane. Although the functional entities are separated from each other, IP connection technologies provide the means for placing the functional entities in the same physical device, if needed.

The PoC core network contains the following functional entities: user control-plane-function (U-CPF), group control-plane-function (G-CPF), user user-plane-function (U-UPF), group user-plane-function (G-UPF), subscriber and group management function (SGMF) and PoC database 502. The U-CPF and G-CPF are the control plane functional entities. The U-CPF handles user-related control plane functions. Each user has one pre-assigned U-CPF which is used regardless of the user's physical location. All user signaling first moves from the mobile station MS to the user's U-CPF. The G-CPF handles group-related control plane functions and keeps track of the group members. One G-CPF is assigned for each group when the group is created. The U-UPF and G-UPF are user plane functional entities. U-UPF is involved in real-time traffic distribution for users. Each user has a U-UPF (assigned at logon) and all real-time traffic goes through this U-UPF. The G-UPF handles group-related user plane functions, i.e. it handles real-time traffic in groups and takes care of speech item distribution. Each group belongs to one G-UPF. The SGMF handles the management plane function, i.e. it deals with user and group management. The static information of the system is saved into the PoC database 502. The control plane, e.g. the U-CPF and G-CPF, ask and save data from/to the PoC database 502 via the SGMF."

Applicants respectfully submit that the Toyryla reference fails to disclose, for example, the step of "selecting, by the network, a unique dynamic group call identification and a time to live parameter corresponding to the unique dynamic group call identification based on network parameters," as required by claim 26. (Emphasis added.) Consequently, the Toyryla reference fails to teach or suggest at least these recitations of claim 26. Accordingly, the rejection of claim 26 should be withdrawn.

Claims 33-38 and 41-42

Claims 33-35 were rejected under 35 U.S.C. 103(a) as being unpatentable over Toyryla in view of Chandhok et al., and claims 36-43 were rejected under 35 U.S.C. 103(a) as being unpatentable over Toyryla in view of Chandhok et al. further in view of Sasuta.

Applicants respectfully traverse these rejections for at least the following reasons.

Applicants amend claim 33 to include the recitations from claims 39 and 40. Amended claim 33 concerns a method for dynamic group call from a first user to a group of second users via a network including a server. This method includes the steps of:

dynamically sending by the first user a dynamic group call list of the group of second users to the server through the network;

sending by the first user an indicator to the server through the network to start the dynamic group call immediately;

sending, by the network, a dynamic group call identity to each of the group of second users and to the first user, an identity of the first user to the second users, and a time to live parameter to each of the group of second users and to the first user; and

launching the dynamic group call to the group of second users and to the first user. (Emphasis added.)

In rejecting claim 40, the Office cites col. 8, line 17 through col. 9, line 8 of the Toyryla reference which discusses:

“As described above, the user who creates the talk group chooses a name or other group identifier for the users. The users and the communications system have contradictory requirements for the group names and the group identifiers. In the user's point of view the group name or group identifier has to be meaningful for the users. On the other hand, the communications system points out that the talk group needs an identifier, which is unique in the communications system. However, a meaningful group name, chosen by a user, is often not likely to be unique. Therefore, in an embodiment of the invention, the mobile station creates a unique identifier from the group name supplied by the (group-creating) user. There are several ways to implement such a functionality. Sometimes, additional information is provided that is associated with the group name to create a unique identifier. As explained in more detail below, such additional information may include a password, a base group identifier, a closed user group identifier, a user identity of the user who created the talk group, etc. If there is no such information associated with the group name, then the mobile station can append a random part to the group name for this purpose. Such a random part may be a random number generated by the mobile station. In the approach according to the present invention, the access control of the groups (and thereby security) is intrinsically weaker than in a centralized network-oriented solution. Also, even if the solution makes it easy to admit new members to a talk group by distributing the group definition message, the removal of a member from the group is not easy to implement reliably. The security problem is alleviated in cases where a dynamic group is needed for a limited period of time or when the security requirements are restricted. These are also the primary application fields of the present invention. As the invention is typically implemented in the communications systems supporting also the conventional permanently created system-controlled talk groups having higher security, this other type of talk groups is generally used when the security requirements are high.

However, it is possible to improve the security in some degree by using additional security features. In the basic form of the invention the security (i.e. the access control to the group) is dependent on what is known about the contents of the group definition message. The additional mechanisms to improve the security are based on the associated additional information to the group definition. As

noted above, such additional information may also implicitly serve to create a unique group identifier without a need for an explicit random part.

The first mechanism to improve security is the use of passwords. The group-creating user gives a password (such as a PIN code) for the group. The password is stored within the group definition message in an encrypted form. Access to the talk group is only allowed by the communications system if the user activating the talk group gives the right password. The security of this approach is limited because it is possible to find the password with brute force attack. If the talk group is used for a limited period of time only, and/or for communications of non-critical nature, this method is suitable because of its simplicity.” (Emphasis added.)

Applicants respectfully submit that the Toyryla reference fails to disclose, for example, the step of sending “a time to live parameter to each of the group of second users and to the first user,” as required by claim 33. (Emphasis added.) Consequently, the Toyryla reference fails to teach or suggest at least these recitations of claim 33. Accordingly, the rejection of claim 33 and its dependent claims 34-38 and 41-43 should be withdrawn.

In addition, Applicants note that claims 34-38 and 41-43 are separately patentable because those claims describe additional novel elements and features that are not described in the prior art. Therefore, Applicants submit that the rejections of claims 34-38 and 41-43 should also be withdrawn for at least these reasons.

In conclusion, for the reasons given above, all claims now presently in the application are believed allowable and such allowance is respectfully requested. Should the Examiner have any questions or wish to further discuss this application, Applicants request that the Examiner contact the undersigned attorney at (480) 385-5060.

If for some reason Applicants have not requested a sufficient extension and/or have not paid a sufficient fee for this response and/or for the extension necessary to prevent abandonment on this application, please consider this as a request for an extension for the required time period and/or authorization to charge Deposit Account No. 50-2091 for any fee which may be due.

Respectfully submitted,

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Dated: December 1, 2006

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